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ABSTRACT

How well a combination of junior/senior undergraduate grade point average (GPA), scores on the Miller Analogies Test (MAT), and writing sample scores can predict success for students seeking a Master's degree in education was studied. Success was determined for the study by the student's graduate GPA and whether or not the student graduated from the program. Data were obtained for 142 students. Their writing samples were scored independently by three experienced readers. Data indicated that the writing sample, in conjunction with Junior/Senior GPA, could be used with moderate success to predict undergraduate GPA for students in a Master's program in a school of education, although none of the variables could accurately predict whether or not a student would complete the program within 4 years. These results support previous findings that the writing score was a better predictor of graduate GPA than either the MAT score or undergraduate GPA. The study provides additional evidence that the use of authentic methods, such as a written statement, may be valuable in assessing a student's potential for program success. (SLD)

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Using a Writing Sample to Predict Success in Masters Programs in Education

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Paper presented at the Annual Meeting of the
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Using a Writing Sample to Predict Success in Masters Programs in Education

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Objective

The objective of this study was to determine how well a combination of junior/senior undergraduate grade point average, Miller Analogies Test (MAT) scores, and writing sample scores can predict success for students who are seeking a masters degree in Education. For this study, success was determined by (1) the student's graduate grade-point average (GPA) and (2) whether or not the student graduated from the program.

Perspectives

Research studies have indicated that standardized test scores are of limited use to an admissions office that wants to predict performance of applicants to graduate Schools of Education. For the past thirty years the usefulness of standardized tests, such as the MAT, as predictors of ability in graduate Schools of Education has been limited (Ainsworth and Fox, 1966; Gill and Marascuilo, 1967). Payne and Tuttle (1966) found predictive validity coefficients for the Miller Analogies Test that ranged from .00 to .59. A more recent study (de-Felix and Houston, 1986) indicates that there is a weak association between standardized entrance tests and indicators of success, particularly for minorities.

Today, with the movement toward assessment devices which are more authentic in nature, it seems reasonable to explore the possibility of emphasizing a writing sample, as opposed to a standardized test, as an admission criterion.

Currently the MAT score and a student's junior/senior undergraduate GPA are used as the two major criteria for admission to graduate study in the College of Education at a metropolitan university in the Midwest. It was hypothesized that the quality of students' writing might be more predictive of their performance in graduate school than the MAT, because most of the masters programs at the university emphasize the production of original written work. Much of the assessment for courses is based on essay exams and written papers, rather than students' responses to objectively scored test items.

This current study is an attempt to replicate a study conducted at the same College of Education in 1993 with Masters of Arts in Teaching students and another in 1994 with on-campus Masters of Education students which found that the scores from a writing sample predicted graduate GPA more accurately than scores from the MAT. This study differs from the previous studies in that a sample of students from all masters programs in the College of Education was selected.

Methods

The Office of Institutional Research at the university supplied a list of 6738 students who were seeking masters degrees and taking courses in the College of Education from September 1991 to August 1993. The list of students was then stratified with

respect to MAT scores and degree program (Master of Arts in Teaching, Master of Education (On-Campus), Master of Education (Off-Campus) and Master of Science in Education). A proportional sample of 162 students was selected across the 4 degree programs, and to assure enough students at the lower end of the MAT scale were present in the sample, a slight over-representation of students with MAT scores below 30 were chosen to be included in the study.

An attempt was made to collect the written statement from the student's application for graduate study for each of the 162 students. Application statements, which served as the writing sample for this study, could not be located for 20, or 12%, of the students. Thus, the final sample consisted of 142 students. Data for the remaining variables were supplied by the university's Office of Institutional Research.

Data Sources

Predictor Variables

Junior/Senior Undergraduate GPA. This predictor was determined by averaging the grade point values (A = 4, B = 3, C = 2, D = 1, F = 0) for all courses taken during the student's junior and senior years in undergraduate school.

Miller Analogies Test (MAT) Score. The raw score from the Miller Analogies Test was used as a another predictor in this study. Raw scores on the MAT may range from 0 to 100.

Writing Sample Score. As part of the admission process for graduate study, applicants complete a written statement, which in the past has been read, but has not been formally scored nor

evaluated. This written statement has also received less weight than the junior/senior GPA and the MAT score in determining admission to graduate study. The following statement appears on the graduate application form:

> Please describe your reasons for wishing to complete the degree for which you are applying. Present some of your future professional plans and indicate what you hope to accomplish from this additional study. This statement is one of the criteria used to evaluate your application.

The writing samples were scored independently by 3 readers who have had several years experience scoring essays which are used as an admission criterion for alternative teacher certification programs in Texas. The writing samples were scored according to the following 4-point scale which is a modification of the scale used to evaluate essays written by applicants to the Texas alternative teacher certification programs:

> 4 - A well organized essay that demonstrates clear competence in writing, although it may have a few minor errors or occasional awkwardness of expression.
>
> 3 - An essay that is well written but somewhat general and lacking in details. It may have 1 or 2 major errors and some minor errors.
>
> 2 - The essay may be too brief, underdeveloped or too general to deal adequately with the topic, or the essay may indicate problems in basic writing skills.
>
> 1 - The essay displays serious faults in writing and weakness in content.

To score the writing sample, each reader assigned one of the four score points to the essay and was also allowed to indicate a plus (+) or a minus (-) if the writing sample was at the top or at the bottom of a particular score category. In only 2 instances out of 142 did the scores of any two readers differ by more than 1

point. In those two cases the differences were resolved so that all readers arrived at scores that were no more than 1 score point apart.

To increase the variability in the essay score scale, the scores of the 3 readers were summed and multiplied by 4, and then one point was added to the result for each plus (+) given by the readers (maximum of 3 points), and one point was subtracted from the result for each minus (-) given by the readers (maximum of 3 points). Thus, the possible range of scores for the writing sample was 9 to 51. The interrater reliability for scoring the writing samples for this study was r = .92.

Dependent Variables

Graduate GPA. For each student in the sample the graduate GPA was determined by averaging the grade point values for all graduate courses taken in the College of Education, employing the same procedure used to determine the junior/senior undergraduate GPA.

Graduation Success. If a student had graduated by June 1995, the student was assigned a code of 1 for the graduation success variable. If a student had not graduated by June 1995, the student was assigned a 0 for the graduation success variable.

Results

The final sample consisted of 142 students (Female, 85%; Male, 15%) from the following degree programs: Master of Education (Off-campus), 53%; Master of Education (On-campus), 25%; Master of Arts in Teaching, 21%; and Master of Science in Education, 1%. The final percentage closely approximated the percentage of students actually admitted into each of the degree programs. Nearly 87% of the students in the sample had graduated within 4 years of taking

their first course at the university.

Means, standard deviations, and ranges were determined for the MAT, the GPA variables and the writing score. (See Table 1).

Table 1

Means, Standard Deviations and Ranges

for the Predictor and Dependent Variables

Variable	Mean	SD	Range
MAT Score	45	19	9 to 90
Junior/Senior GPA	3.01	.47	1.72 to 3.95
Graduate GPA	3.71	.36	2.60 to 4.00
Writing Score	30.84	11.40	11 to 50

The mean MAT score reflected the slight over-sampling of students with lower MAT scores (sample mean = 45, population mean = 47). A similar finding was also evident for the junior/senior GPA (sample mean = 3.01, population mean = 3.09) and graduate GPA (sample mean = 3.71, population mean = 3.86).

In addition, correlations among all the predictor and dependent variables were calculated. (See Table 2). The only significant correlations ($p < .01$) between the predictors and the dependent variables were between graduate GPA and the following predictor variables: MAT score ($r = .37$), junior/senior GPA ($r = .31$) and the writing score ($r = .45$).

A stepwise regression was performed using graduate GPA as the dependent variable and the MAT score, junior/senior GPA and the

writing score as the predictors. The results of the regression analysis indicated that the writing score was the best single predictor of graduate GPA (R = .45). After taking the writing score into account, the second best predictor was junior/senior GPA. With the addition of junior/senior GPA to the equation, the multiple R increased to .51. The MAT score did not add significantly to the prediction equation once the writing score and the junior/senior GPA were taken into account.

Table 2

Correlations Between the Predictor and Criterion Variables

	Criterion Variables	
Predictors	Program Completion	Graduate GPA
Writing Score	.17	.45**
Junior/Senior GPA	-.03	.31**
MAT Scores	-.03	.37**

** $p < .01$; $n = 142$

Educational Importance

The data indicate that although none of the variables could accurately predict whether or not a student would complete the program within 4 years, the writing sample, in conjunction with the junior/senior undergraduate GPA, could be used with moderate success to predict graduate GPA for students in a masters program in a School of Education.

The results of this current study support the findings of the

previous studies conducted at this university, namely that the writing score was a better predictor of graduate GPA than either the MAT score or undergraduate GPA. In addition, the correlation between the writing sample score and graduate GPA was fairly consistent across the three years that the study was conducted: r = .40 for 1993; r = .48 for 1994; and r = .45 for 1995.

This study provides additional evidence that the use of authentic methods, such as a written statement, may be valuable in assessing the ability of students to experience success with masters work in Education. Additionally, the writing sample could provide valuable diagnostic information to help students improve their writing skills so that they may be more successful in their graduate studies.

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